

**Amendment and Response**

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Serial No.: 10/019,643

Confirmation No.: 1109

Filed: December 28, 2001

For: METHOD AND COMPOSITION FOR AFFECTING REPRODUCTIVE SYSTEMS**Amendments to the Claims**

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1.-3. (canceled)

4. (previously presented) A method for treating or preventing a reproductive disease, disorder, or condition in a bird comprising administering to the bird an immunogenic composition comprising a polypeptide comprising a zona pellucida protein or an immunogenic fragment thereof.

5. (canceled)

6. (currently amended) The method of claim 4 wherein the reproductive disease, disorder or condition is selected from the group consisting of egg-binding disease, dystocia, egg-related peritonitis, oophoritis, ~~neoplasia of the reproductive tract~~, prolapsed oviduct and cloaca, salpingitis, metritis, oviduct impaction, cloacal problems, cystic hyperplasia, ectopic egg formation, chronic egg laying and undesirable behavior as a result of reproductive activity or reproductive problems.

7.-11. (canceled)

12. (previously presented) The method of claim 4 wherein the zona pellucida protein is a glycoprotein.

13. (previously presented) The method of claim 4 wherein the zona pellucida protein is a naturally occurring protein.

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14. **(previously presented)** The method of claim 4 wherein the zona pellucida protein is a recombinant protein or synthetic protein.
15. **(previously presented)** The method of claim 4 wherein the zona pellucida protein comprises at least one zona pellucida protein selected from the group consisting of a porcine zona pellucida protein and an avian zona pellucida protein.
16. **(previously presented)** The method of claim 4 wherein the polypeptide further comprises a T cell epitope, a helper T cell epitope or a B cell epitope.
17. **(previously presented)** The method of claim 4 wherein the immunogenic composition further comprises an adjuvant.
18. **(original)** The method of claim 17 wherein the adjuvant is selected from the group consisting of Freund's Complete Adjuvant, Freund's Incomplete Adjuvant, Freund's mycotoxin-free adjuvant, aluminum hydroxide, a cell wall extract derived from non-pathogenic *Mycobacteria* spp., a long-chain polydispersed  $\beta(1,4)$  linked mannan polymer interspersed with O-acetylated groups, permulium and synthetic trehalose dicorynomycolate (STDCM).
19. **(original)** The method of claim 18 wherein the adjuvant is selected from the group consisting of aluminum hydroxide and STDCM.
20. **(previously presented)** The method of claim 18 wherein the adjuvant is aluminum hydroxide.
21. **(previously presented)** The method of claim 4 wherein the immunogenic composition excludes an adjuvant.

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22. (canceled)

23. (previously presented) The method of claim 4 wherein the immunogenic composition comprises a zona pellucida protein or immunogenic fragment thereof.

24.-26. (canceled)

27. (previously presented) The method of claim 4 wherein the immunogenic composition comprises an immunogenic conjugate comprising a zona pellucida protein or a fragment thereof, conjugated to a carrier molecule.

28. (previously presented) The method of claim 27 wherein the immunogenic conjugate is dually functional.

29. (previously presented) A method for affecting the reproductive system of a bird comprising administering to the bird an immunogenic composition comprising an immunogenic conjugate comprising a zona pellucida protein or fragment thereof conjugated to a carrier molecule.

30.-40. (canceled)